Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

which about this time fills the canal of the micropyle, but afterwards dries up, and thus draws the captured pollen-grains to the nucleus, where they immediately emit their pollen-tubes into the spongy tissue. In *Cupressineæ*, *Taxineæ* and *Podocarpeæ* this contrivance is sufficient, since the mycropyles project outwardly; in the *Abietineæ*, where they are more concealed among the scales and bracts, these themselves form, at the time of pollination, canals and channels for this purpose, through which the pollen-grains arrive at the micropyles filled with fluid" (STRASBERGER).[1] Mr. Meehan said that in his former observations on liquid exudations in *Thuja* and other plants he was inclined to adopt the suggestion of Sach as to the purpose of the liquid supply; but as it was here in *Abies* so long after fertilization must have taken place, and as it was held up in the deep recesses of the scales of the pendent cone, where it could hardly be possible the wind could draw up the pollen; and as, moreover, the extract shows that these eminent botanists believe *Abietineæ* does not need the moisture they did not know existed in this abundance, we must look for other reasons, which, however, do not yet seem to be apparent.

SEPTEMBER 11.

Mr. MEEHAN, Vice-President, in the chair.

Sixteen persons present.

The death of the Curator-in-charge, Charles F. Parker, on the 7th inst., was announced.

Irritability in the Flowers of Centaureas and Thistles.—Mr. THOMAS MEEHAN called attention to some flowers of various compositæ on the table, sent by Miss Mary E. Powel, of Newport, Rhode Island, who has observed a singular motion in the florets of *Centaurea Americana.* This motion had long been known to German botanists, and a reference to some features of it may be found in Sach's Text-book of Botany, and there was an illustrated paper by Cohn in *Zeitschrift für wis. Zoologie*, vol. xii, showing the mechanism of the contraction of the anthers. As, however, the motion had failed to attract the attention of American observers, or at least he knew of no reference to it in any American work at his command, he believed it might do good service to place on record an independent statement of the phenomena as exhibited by the specimens before us.

Besides the motion in *Centaurea Americana*, observed by Miss Powel, Mr. Meehan said that he found a similar motion in the following plants growing in his garden: *Centaurea alba*, *Centaurea*

---

[1] Sach, Text-book of Botany, Oxford edition, p. 449. The various ways of spelling micropyle in the same paragraph, are of course retained in the quotation.

nigra, *C. ochroleuca*, *C. rutifolia*, *Cirsium serrulatum*, *C. discolor*, and *C. lanceolatum.* The motion seems most active when the anthers are ready to shed their pollen, and, as pollen-gathering insects anticipate the observer, it is best to cut the flowers and place them in water in a room. Endeavoring to observe the motion of *Cirsium discolor* in the growing plant almost failed from this cause, but on drawing a light substance over the whole head, some of the florets were found to move.

In the *Centaurea* flowers on the table, the best period for observing the motion is when the anthers which cover the apex of the pistil seem about to allow the pistil to protrude. If then touched, the pollen is seen to issue from the mouth of the united stamens, and the whole crown of anthers to decline. Cohn, above cited, gives the exact measurement of this contraction, and explains the mechanism by which the contraction is accomplished. At the same time, if the motive power be very active, the whole upper portion of the floret, moves in some direction, apparently without order or system. Sometimes it is in a lateral direction, at other times upwards or downwards, and sometimes describing a circle round its own axis. In some cases the motion is communicated to other florets—two and sometimes three moving to the touch of a single one. In ten minutes after the exhibition of irritation, it is ready for another fit, and goes through the motions, though less actively than before. Mr. Meehan had failed to get any motion three times from the same floret, and not always two. Touching the pistil had no effect unless the force was sufficient to press one side against the anther. The irritation seemed to be confined to the stamens, and through these probably down by their nervous connections through the achenium, and in this way communicating with the nerves which run up through neighboring achenes to the stamens which they support.

Since the above communication was made to the Academy, Mr. J. H. Redfield believes that the neutral ray florets in *Centaurea Americana*, which have neither stamens nor pistil, also possess the power of motion, and Miss Powell, without knowledge of Mr. Redfield's observation, notes a similar experience.

SEPTEMBER 18.

Mr. THOMAS MEEHAN, Vice-President, in the chair.

Thirty-one persons present.

The death of John C. Trautwine, a member, was announced.

Notes on the Sequoia gigantea.—Mr. MEEHAN remarked that so much had been written about the mammoth trees, that there seemed little room for more; but to one of the fullest accounts given, namely, that by Mr. Muir in the Proceedings of the Meeting of